CLAIMS:

What is claimed is:

1. A method comprising:

   identifying a receive capability associated with one or more priority levels of Ethernet traffic for a network device; and

   generating a control message including a flow control priority level, the flow control priority level denoting the identified priority level above or below which the network device has the ability to receive Ethernet traffic.

2. A method according to claim 1, further comprising:

   transmitting the generated control message to a communicatively coupled network device, whereupon receipt of the generated control message the communicatively coupled network device acts in accordance with the received control message to suspend a subset of Ethernet traffic.

3. A method according to claim 1, wherein identifying comprises:

   determining available buffer capacity for each of a plurality of buffers associated with a commensurate plurality of Ethernet priority levels.

4. A method according to claim 3, wherein the available buffer capacity associated with a particular Ethernet priority level denotes the ability of the buffer to receive additional Ethernet traffic of that priority level.

5. A method according to claim 3, wherein the buffer for each priority level is comprised of one or more memory device(s).

6. A method according to claim 3, wherein the buffers associated with each of the priority levels are virtual buffers implemented within a common physical buffer.

7. A method according to claim 3, wherein the generated control message includes an indication of the priority level above which a receive buffer has available capacity to receive Ethernet traffic of an associated priority level.

8. A method according to claim 7, wherein a receiving network device initiates a pause in transmission of Ethernet traffic having a priority level below that indicated in the received control message.

9. A method according to claim 1, wherein generating a control message comprises:

    generating an Ethernet control packet including a priority field, the priority field denoting the flow control priority level.

10. A method according to claim 9, wherein the priority field is included in a header portion of the Ethernet control packet.

11. A method according to claim 1, further comprising:

    receiving Ethernet traffic;

3   identifying a priority level associated with each packet of received Ethernet traffic; and

4   forwarding each received packet to a receive buffer based, at least in part, on the

5 identified priority level associated with the Ethernet packet.

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1 12.   A method according to claim 11, further comprising:

2   monitoring the receive capability of buffers associated with each of the priority levels of

3 Ethernet traffic; and

4   issuing control messages, as necessary, to throttle transmission of at least a subset of

5 Ethernet traffic in accordance with the identified receive capability associated with the one or

6 more priority levels.

13.   A method according to claim 12, wherein throttling transmission of a subset of Ethernet

traffic comprises temporarily suspending transmission of the subset of Ethernet traffic for a set

period of time and/or until another control message is received denoting that transmission of the

subset of Ethernet traffic may resume.

1 14.   A method comprising:

2   receiving a control message denoting a flow control priority level from a network device;

3 and

4   throttling transmission to the network device of a subset of Ethernet traffic having a

5 priority level above or below that denoted in the received control message.

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15. A method according to claim 14, wherein the flow control priority level denotes a priority level associated with a subset of Ethernet traffic above which the issuing network device has a receive capability.

16. A method according to claim 14, wherein the control message is an Ethernet control message.

17. A method according to claim 16, further comprising:

analyzing a header of the received Ethernet control message to identify a flow control priority level.

18. A method according to claim 14, wherein throttling transmission comprises:

suspending transmission of a subset of Ethernet traffic having a priority level below the flow control priority level denoted in the received control message until a subsequent control message is received denoting an ability of an issuing network device to receive the subset of Ethernet traffic.

19. A method according to claim 14, further comprising:

receiving content from a host network device for transmission to another network device communicatively coupled through an Ethernet network; and

assigning a priority level to the received content based, at least in part, on a source of such content.

20. A method according to claim 14, further comprising:

receiving content from one or more source applications executing on a host network device, the content tagged with a priority level associated with its source application; and

selectively transmitting received content to another network device communicatively coupled through an Ethernet network based, at least in part, on the priority level of the content and received control message(s) throttling transmission of a subset of such Ethernet traffic.

21. A network interface comprising:

a plurality of receive buffers, each associated with a particular priority level of Ethernet traffic; and

control logic, coupled to the receive buffers, to identify a receive capability of each of the receive buffers and selectively generate control message(s) including a flow control priority level denoting the identified priority level above or below which the network interface has the ability to receive Ethernet traffic.

22. A network interface according to claim 21, further comprising:

a transmit buffer, responsive to a host network device and the control logic, to receive content from one or more application(s) executing on the host network device for transmission to other network device(s) through an Ethernet network, the received content including an indication of priority level.

23. A network interface according to claim 22, wherein the indication of priority level in the received content is determined by its source application.

24. A network interface according to claim 22, wherein the control logic receives control message(s) from other network interface(s), wherein at least a subset of the control messages include a flow control priority level denoting an inability to receive Ethernet traffic having a priority level below that of the denoted flow control priority level.

25. A network interface according to claim 24, wherein the control logic suspends transmission of Ethernet traffic having a priority level below that of the denoted flow control priority level from the transmit buffer to the network device having issued the control message.

26. A network interface according to claim 21, wherein the control logic is a media access controller (MAC).

27. A network interface according to claim 26, the MAC including enhanced flow control capability to implement flow control on a mere subset of Ethernet traffic.

28. A machine accessible medium comprising content which, when executed by an accessing machine, causes the machine to implement a network interface with enhanced Ethernet flow control capability to selectively throttle a mere subset of Ethernet traffic.

29. A machine accessible medium according to claim 29, wherein the network interface identifies a receive capability associated with one or more priority levels of Ethernet traffic for a network device, and selectively generates a control message including a flow control priority

4   level, the flow control priority level denoting the identified priority level above or below which

5   the network device has the ability to receive Ethernet traffic

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1   30.   A machine accessible medium according to claim 28, wherein the network interface

2   receives content from a host network device, the received content denoting a priority level

3   associated with its source application, and wherein the network interface throttles transmission of

4   the received content to another network device communicatively coupled through an Ethernet

5   network based, at least in part, on control messages received from the another network device

6   denoting flow control priority information.